DOCUMENT RESUME

ED 301 433 SE 050 152

TITLE Mathematics Assessment Program 1987; Grade 3. (With Manual and Scoring Key).
INSTITUTION Manitoba Dept. of Education, Winnipeg. Curriculum Development Branch.
REPORT NO 12939
PUB DATE May 87
NOTE 39p.
PUB TYPE Tests/Evaluation Instruments (160) -- Guides - Classroom Use - Materials (For Learner) (051) -- Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Achievement Tests; *Elementary School Mathematics; Foreign Countries; Grade 3; *Mathematical Concepts; *Mathematics Achievement; Mathematics Education; Mathematics Skills; *Mathematics Tests; Primary Education; *Test Items; Test Manuals
IDENTIFIERS Manitoba (Winnipeg)

ABSTRACT

This is a part of the Manitoba Mathematics Assessment Program 1987. Actual testing material and the manual for grade three are provided. The test (100 items) requires two 30-minute sessions. The manual describes general testing instructions, administration, scoring method and key, and format for recording the final test scores. (YP)

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№ 12939

MATHEMATICS ASSESSMENT PROGRAM 1987

CURRICULUM DEVELOPMENT AND IMPLEMENTATION BRANCH

GRADE 3

U.S. DEPARTMENT OF EDUCATION
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SE 050 152

MAY, 1987

Manitoba Education

NAME _____ _____
(LAST) (FIRST)

SCHOOL _____

☐ MALE

☐ FEMALE

SAMPLE PROBLEMS

WRITE THE ANSWERS IN THE SPACES PROVIDED.

(A)

$$\begin{array}{r} 4 \\ +\ 3 \\ \hline \square \end{array}$$

(B) How many tens in 24? _____

PUT A CHECK MARK IN THE RIGHT BOX (☑)

(C) 50 + 3 is the same as

- ☐ 35
- ☐ 53
- ☐ 305
- ☐ 503

STOP

PLEASE DO NOT TURN THE PAGE UNTIL ASKED TO DO SO.

PART I

WRITE THE ANSWERS IN THE SPACES PROVIDED.

1. Fill in the missing numbers.

   37, _____, 39, _____

2. Which number comes right **after** 499? _____

3. Which number comes right **before** 349? _____

4. **Circle** the number larger than 572.

   413 568 377 579

5. **Circle** the number smaller than 250.

   243, 431, 376, 259

6 Round off to the nearest ten: 63 _____

7 Round off to the nearest hundred: 769 _____

8 How many hundreds are there in the number 432?

- ☐ 4
- ☐ 3
- ☐ 2

9 What place does the 6 hold in 627?

- ☐ hundreds
- ☐ tens
- ☐ ones

10 What place does the 0 hold in 402?

- ☐ hundreds
- ☐ tens
- ☐ ones

11 What place does the 1 hold in 51?

- ☐ hundreds
- ☐ tens
- ☐ ones

WRITE THE ANSWERS IN THE SPACES PROVIDED.

ADD:

12) 53 + 26 = ☐

13) 49 + 35 = ☐

14) 23 + 64 + 10 = ☐

15) 57 + 18 + 32 = ☐

16) 312 + 267 = ☐

17) 152 + 163 = ☐

18) 223 + 378 + 402 = ☐

19) 131 + 46 + 22 = ☐

ADD

(20)

$$\begin{array}{r} 462 \\ 21 \\ +\ 75 \\ \hline \square \end{array}$$

(21)

$$\begin{array}{r} 643 \\ 68 \\ +\ 12 \\ \hline \square \end{array}$$

(22) Estimate the sum: 16 + 27 =

- ☐ 30
- ☐ 60
- ☐ 50
- ☐ 40

(23) Estimate the sum: 46 + 38 =

- ☐ 90
- ☐ 70
- ☐ 80
- ☐ 60

SUBTRACT

24) 79
- 23
= ☐

25) 90
- 27
= ☐

26) 674
- 50
= ☐

27) 450
- 25
= ☐

28) 576
- 113
= ☐

29) 707
- 121
= ☐

30) 608
- 234
= ☐

31 Estimate the difference: 92 - 36 =

- ☐ 40
- ☐ 50
- ☐ 60
- ☐ 70

32 Estimate the difference: 73 - 57 =

- ☐ 20
- ☐ 10
- ☐ 40
- ☐ 30

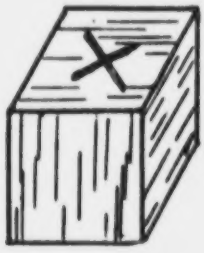
33 The baker made 48 chocolate cupcakes and 56 cherry cupcakes. How many cupcakes did he make? _____

34 The clown had 71 balloons in his hand. The children bought 25 balloons from him. How many balloons does the clown have now? _____

35 The gardener planted 189 roses. Then he planted 236 tulips. How many flowers did he plant? _____

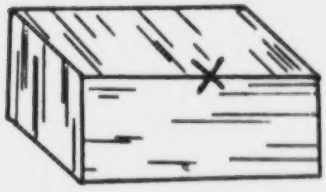
36 Terry saw 365 animals at the zoo. If 137 were sleeping, how many animals were awake? _____

37 What part of the shape is the "X" on?



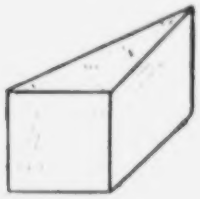
- ☐ face
- ☐ edge
- ☐ corner

38 What part of the shape is the "X" on?



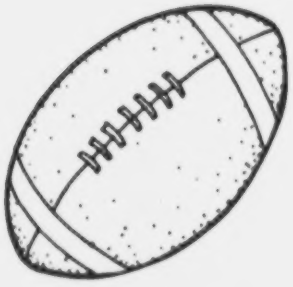
- ☐ face
- ☐ edge
- ☐ corner

39 Circle all the corners on this shape.



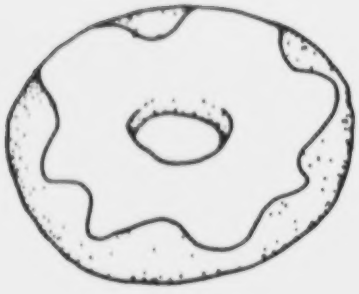
40 Which object has straight edges?

A) ☐

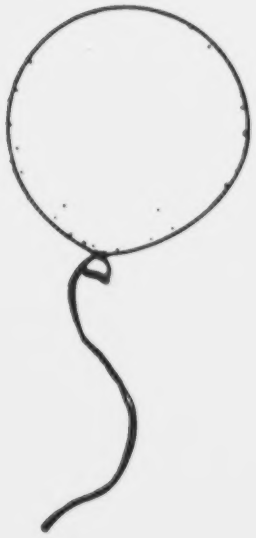


B) ☐

C) ☐



D) ☐



41 Which set of lines is parallel?

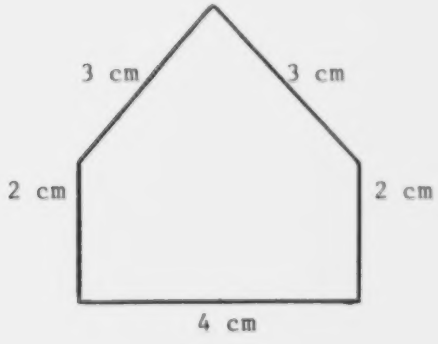
A) ☐

B) ☐

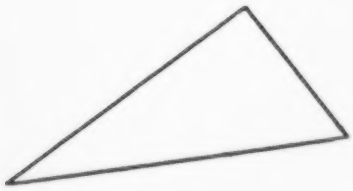
C) ☐

D) ☐

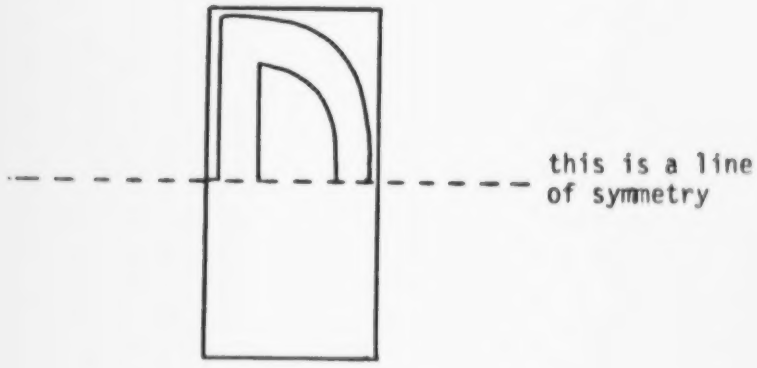
42 Find the perimeter of this shape. _____ cm

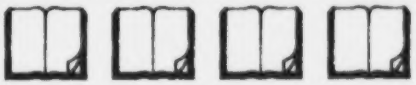


43 How many angles does this shape have? _____



44 Draw the other half of the picture.



Name	Books Read
Sue	
Cheryl	
Michelle	
Robert	

45 Who read the most books? _____

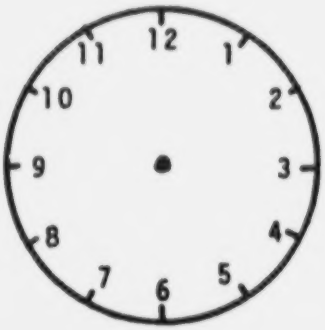
46 How many more books did Michelle read than Sue? _____

47 How many slices of bread are needed to make a sandwich using peanut butter, jam, and a banana? A slice of bread must be placed between each filling. _____

48 You follow this pattern in spending money.
On Monday you spend 5¢.
On Tuesday you spend 10¢.
On Wednesday you spend 20¢.
How much will you spend on Thursday? _____

49 You are waiting to buy popcorn at the show.
There are 5 people in front of you.
There are 4 people behind you.
How many are in line? _____

50 It is now 3 o'clock. Show the clock 5 hours earlier.



STOP

PLEASE DO NOT TURN THE PAGE UNTIL ASKED TO DO SO.

PART II

MULTIPLY

51) 9 x 4 = ☐

52) 5 x 6 = ☐

53) 4 x 7 = ☐

54) 8 x 3 = ☐

55) 7 x 2 = ☐

56)
$$\begin{array}{r} 60 \\ \times\ 5 \\ \hline \square \end{array}$$

57)
$$\begin{array}{r} 30 \\ \times\ 3 \\ \hline \square \end{array}$$

58)
$$\begin{array}{r} 300 \\ \times\ 2 \\ \hline \square \end{array}$$

59)
$$\begin{array}{r} 200 \\ \times\ 4 \\ \hline \square \end{array}$$

60)
$$\begin{array}{r} 41 \\ \times\ 5 \\ \hline \square \end{array}$$

61)
$$\begin{array}{r} 36 \\ \times\ 4 \\ \hline \square \end{array}$$

DIVIDE:

62 $36 \div 6 =$ ☐

63 $35 \div 5 =$ ☐

64 $28 \div 7 =$ ☐

65 $16 \div 2 =$ ☐

66 $27 \div 3 =$ ☐

67 $20 \div 5 =$ ☐

WRITE THE MISSING NUMBER IN THE BOX.

68 $10 \div$ ☐ $= 5$

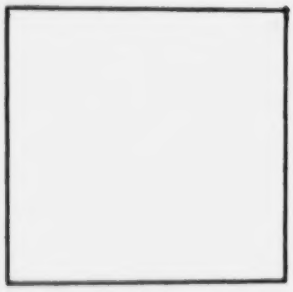
69 ☐ $\times 9 = 0$

70 $4 \times$ ☐ $= 12$

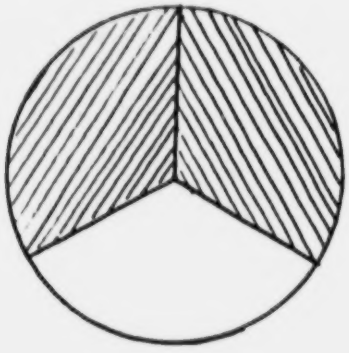
71 There were 5 clowns. Each clown had 3 hats. How many hats were there in all? _____

72 There are 36 chairs. Each row has 9 chairs. How many rows are there? _____

73 Shade $\frac{1}{4}$ of the square.



74 Write the fraction that shows how much is shaded?

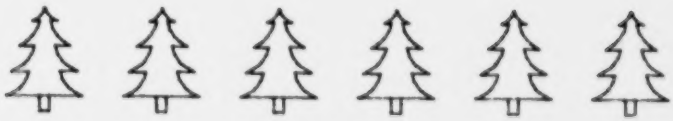


_____

75 What fraction of the rectangle is shaded?

_____

76 Circle $\frac{1}{2}$ the set of trees.



77 Fill in the missing numbers. 9, 12,____,____, 21, 24

78 Draw the missing pictures in this pattern.

79 Draw the two pictures that come next.

80 Which object is about one metre in length?

- ☐ a bus
- ☐ your foot
- ☐ a baseball bat

81 One hundred (100) centimetres is the same length as

- ☐ 1 m (metre)
- ☐ 10 m (metres)
- ☐ 100 m (metres)

82 Which object is about one centimetre wide?

- ☐ A banana
- ☐ A thumb nail
- ☐ A dollar bill

83 7 metres is the same length as

- ☐ 7 cm (centimetres)
- ☐ 70 cm (centimetres)
- ☐ 700 cm (centimetres)

84 The height of your desk would most likely be measured in

- ☐ metres
- ☐ centimetres

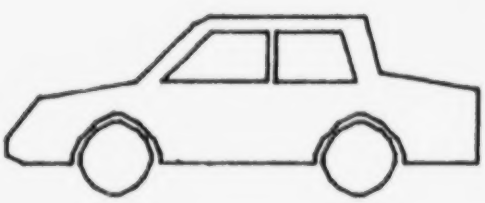
85 The height of the school would most likely be measured in

- ☐ metres
- ☐ centimetres

86 What is the length of this pencil? _____ cm

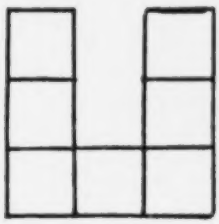
87 The length of this toy car is about

- ☐ 1 cm (centimetre)
- ☐ 7 cm (centimetres)
- ☐ 9 cm (centimetres)

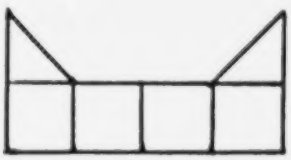


88 Tommy Turtle crawls 45 cm. He stops to rest. Then he crawls 138 cm. How many centimetres did he crawl? _____ cm

89 Find the area of this shape. Each box is one square centimetre (cm^2). _____ cm^2



90 Find the area of this shape.
Each box is one square centimetre (cm^2). _____ cm^2

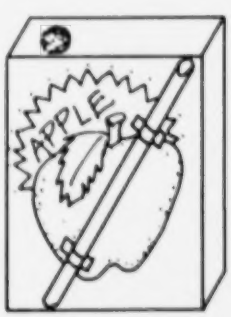


91 The water that a small wading pool holds would most likely be measured in

- ☐ millilitres
- ☐ litres

92 How much a small juice box holds would most likely be measured in

- ☐ millilitres
- ☐ litres



93 How much money? _____

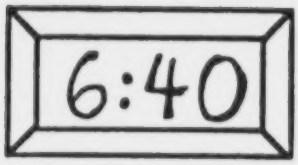
94 What month comes after the second month of the year?

- ☐ February
- ☐ April
- ☐ March
- ☐ January

95 If tomorrow is Friday, today would be

- ☐ Thursday
- ☐ Saturday
- ☐ Friday

96

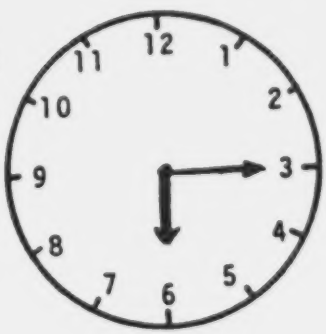


The clock shows the time now. What time will it be in 15 minutes?

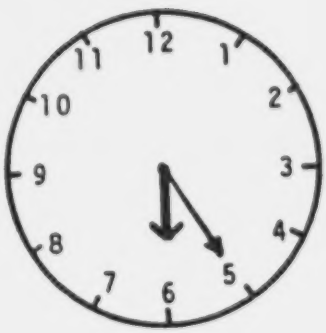
- ☐ 6:45
- ☐ 6:50
- ☐ 6:55

97 Which clock shows 35 minutes past six?

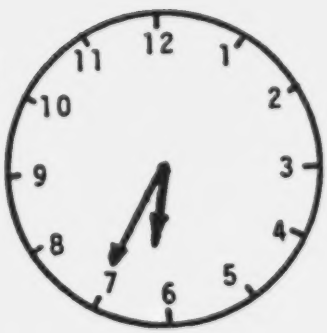
A) ☐



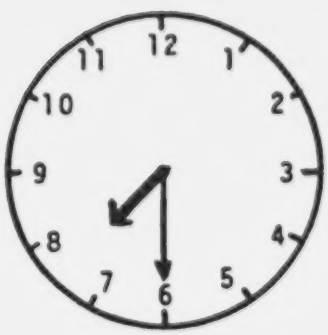
B) ☐



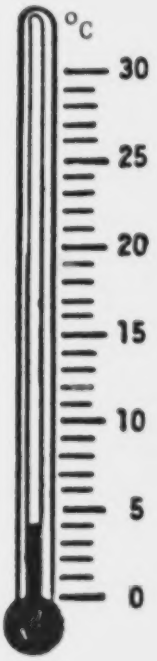
C) ☐

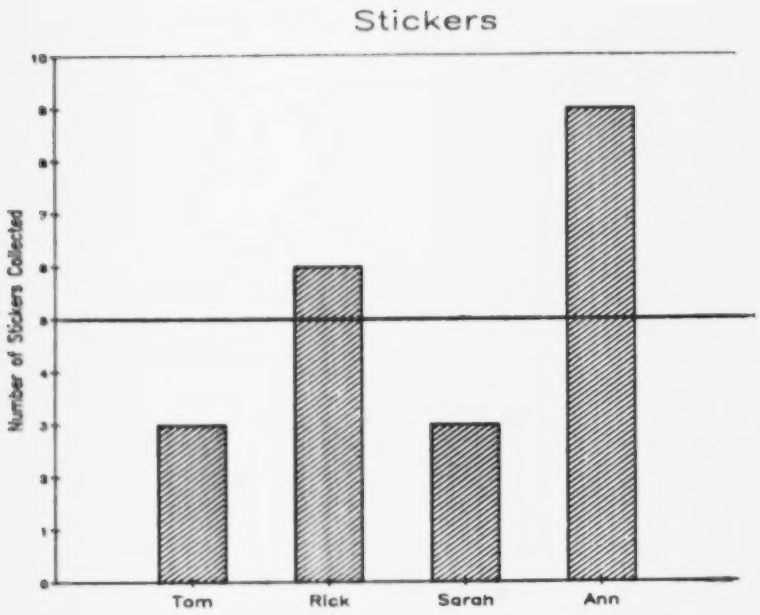


D) ☐



98 Write the temperature. _____°C





99 Who collected more stickers than Rick? _____

100 How many stickers do Sarah and Ann have together? _____

MATHEMATICS ASSESSMENT PROGRAM 1987

GRADE 3

MANUAL AND SCORING KEY

SE 050 152

MAY, 1987

Manitoba Education

GENERAL TESTING INSTRUCTIONS

1. Please read all instructions carefully before administering the test.

2. Actual test writing time is 1 hour.

3. Writing should occur in two separate blocks of time: 30 minutes each for Parts I and II. There should be a break of 10 to 15 minutes between the writing of the two parts. All testing must be completed during one morning: either May 26 or May 27.

4. Students should be asked to bring reading or study material with them to use when they complete either part of the test. Some may finish the test before the end of the allotted time. It is best if such students remain quietly at their desks.

5. Students should not begin Part II until told to do so.

6. Detailed instructions for administering the test appear on pages 2-3 of this Manual.

7. Be sure that students know how to respond in their test booklets before beginning. All answers are to be placed in the test booklet. There are three examples on p. 1 of the test booklet.

8. No calculators, rulers or other manipulative materials are permitted during the test. Inform students of this if necessary. Scratch paper is permitted. (Although we encourage the use of manipulative materials in teaching, consistency in the testing situation requires that they not be permitted.)

9. You may pronounce a word for a student but you should not explain the meaning, or provide any other assistance in clarifying questions.

10. There is no penalty for guessing. Students may guess if they are not completely sure of the right answer.

Test Format

The entire testing process requires approximately 1 1/2 hours to complete, including

a) 10-15 minutes administration time
b) 30 minutes - Part I (items 1 - 50)
c) 10-15 minutes break
d) 30 minutes - Part II (items 51 - 100)

Materials

1. Grade 3 Manual (including Scoring Key)
2. Student test booklets
3. Pencils and erasers - school supplied

ADMINISTERING THE TEST - GRADE 3

1. Describe the nature and length of the test and the testing procedure to the students. Include in your description the following:

   Students in grade 3 classes in Manitoba are writing this mathematics test today. The purpose is to find out how well grade 3 students are learning important ideas and skills in mathematics. The results of this survey will be used to help improve mathematics in Manitoba schools. Depending on your mathematics background, the questions in this test may be easy or they may be difficult. Regardless of the mathematics you have had, it is important that you try each question.

   READ ALOUD

   The test is in two parts, each requiring 30 minutes. A short break will be given after completion of Part I. If you come to the STOP sign at the end of Part I before the time is up, use the remaining time to go back over your work in this part.

2. Ensure that desks are cleared. If necessary, inform students that they may not use calculators, rulers or other manipulative materials.

3. Each student should have at least two sharpened pencils and an eraser. There is ample room in the test booklets for scratch work, but you may provide scratch paper if you wish.

4. Instruct students not to open their test booklets until told to do so. Pass out test booklets.

5. Instruct students to print name and other information requested on the inside front cover of the booklet.

6. Instruct students to find the Sample problems on page 1 of the test booklet and to answer questions A, B, and C.

7. Go over each problem in turn to be sure that pupils have answered correctly and in the proper manner. Walk around to look at the student sample problems and ask if there are any questions. Note that each of the 3 sample questions requires a different format for answering: writing the answer in a box, in the space provided, and putting a check mark in the appropriate box. Bring this to the students' attention since these different forms are used throughout the test. Some questions in the test require that students circle the correct answer, e.g., items 4 and 5. If you feel that it is necessary, place an example on the chalkboard for the students.

8. When all of the sample problems have been answered, tell the students to turn to page 2 of the test booklet and begin. Note the starting time.

9. After exactly 30 minutes -

READ ALOUD

STOP. Put down your pencil and close your test booklet.

Give students and yourself a short break before beginning Part II.

10. After the break -

READ ALOUD

We will now begin Part II. If you finish Part II before the time is up, you may use the remaining time to go back over any part of the test. Open your test booklet to page 16 where it says "Part II" and begin working with question 51.

Note the starting time and check to see that students are on the appropriate page of the test booklet.

11. If students complete the test before the allotted time, they may use this time to go back over any part of the test. When finished they should be instructed to close the booklet and place it on the corner of their desk. They may then read quietly.

12. At the end of exactly 30 minutes of testing time for Part II instruct students to stop writing. Collect all test booklets.

13. If you wish to retain a record of those students whose papers are returned for the provincial sample, please make a copy for your use.

14. Return mailing instructions have been given to principals.

SCORING

It is recommended that the tests be scored according to clusters of items, or subtests. Subtest scores are more meaningful than a total test score. For each item the scoring key on the next page indicates:

1) the correct answer
2) the subtest to which the item belongs.

Subtests		Item Numbers
I.	Number Systems, Operations, and Properties	
I.1	Concepts of Whole Numbers	1-7
I.2	Place Value	8-11
I.3	Addition and Subtraction of Whole Numbers	12-36
I.4	Multiplication and Division of Whole Numbers	51-72
I.5	Fractions	73-76
I.6	Patterns	77-79
II.	Measurement	
II.1	Linear Measurement	80-88
II.2	Area and Volume	89-92
II.3	Money, Time, and Temperature	93-98
III.	Geometry	37-44
IV.	Graphing	45-46, 99-100
V.	Problem Solving	47-50
VI.	Word Problems	33-36, 71, 72, 88 47-50
VII.	Estimation	22, 23, 31, 32

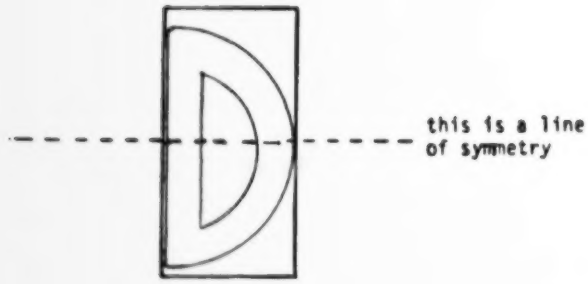
Subtest VI overlaps with subtests I.3, I.4, and II.1 and V. Subtest VII overlaps with subtest I.3. Teachers may wish to determine performance in these categories.

SCORING KEY - Grade 3

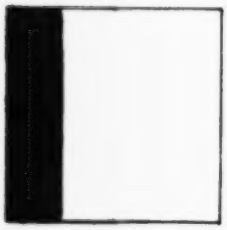
Item Number	Correct Answer	Subtest	Item Number	Correct Answer	Subtest
1	38,40	I.1	51	36	I.4
2	500	I.1	52	30	I.4
3	348	I.1	53	28	I.4
4	579	I.1	54	24	I.4
5	243	I.1	55	14	I.4
6	60	I.1	56	300	I.4
7	800	I.1	57	90	I.4
8	4	I.2	58	600	I.4
9	hundreds	I.2	59	800	I.4
10	tens	I.2	60	205	I.4
11	ones	I.2	61	144	I.4
12	79	I.3	62	6	I.4
13	84	I.3	63	7	I.4
14	97	I.3	64	4	I.4
15	107	I.3	65	8	I.4
16	579	I.3	66	9	I.4
17	315	I.3	67	4	I.4
18	1003	I.3	68	2	I.4
19	199	I.3	69	0	I.4
20	558	I.3	70	3	I.4
21	723	I.3	71	15	I.4
22	50	I.3	72	4	I.4
23	90	I.3	73	Diagram	I.5
24	56	I.3	74	$\frac{2}{3}$	I.5
25	63	I.3	75	$\frac{3}{10}$	I.5
26	624	I.3	76	3 trees	I.5
27	425	I.3	77	15,18	I.6
28	463	I.3	78	Diagram	I.6
29	586	I.3	79	Diagram	I.6
30	374	I.3	80	bat	II.1
31	50	I.3	81	1 m	II.1
32	10	I.3	82	thumbnail	II.1
33	104	I.3	83	700 cm	II.1
34	46	I.3	84	centimetres	II.1
35	425	I.3	85	metres	II.1
36	228	I.3	86	5 cm	II.1
37	face	III	87	7 cm	II.1
38	edge	III	88	183 cm	II.1
39	6 corners	III	89	$7\ cm^2$	II.2
40	B	III	90	$5\ cm^2$	II.2
41	C	III	91	litres	II.2
42	14 cm	III	92	millilitres	II.2
43	3	III	93	$2.51	II.3
44	Diagram	III	94	March	II.3
45	Michelle	IV	95	Thursday	II.3
46	5	IV	96	6:55	II.3
47	4	V	97	C	II.3
48	40¢	V	98	4 oC	II.3
49	10	V	99	Ann	IV
50	10:00	V	100	12	IV

DIAGRAMS

44.

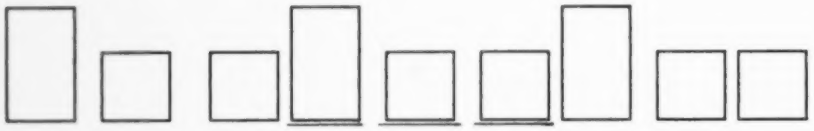


73.



Other shadings are possible.

78.



79.

Score reporting grid for local scoring on next page.

MATHEMATICS ASSESSMENT PROGRAM 1987
FINAL TEST SCORES - GRADE 3

Subtests and Number of Items per Subtest:

Student Names	Number Systems, Operations, and Properties						Measurement			Geometry	Graphing	Problem Solving	Word Problems	Estimation
	I.1 7	I.2 4	I.3 25	I.4 22	I.5 4	I.6 3	II.1 9	II.2 4	II.3 6	III 8	IV 4	V 4	VI 11	VII 4